Reply Comments to NPRM, PSHSB 07-287, Commercial Mobile Alert System (CMAS)

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.   20554

RE: Reply Comments of Interstate Wireless, Inc. D/b/a Handy Page on NPRM, PS docket 07-287, Commercial Mobile Alert System (CMAS)   18 February 2008

It is good to see that many people, companies and government entities have taken the time to respond to this important FCC NPRM with their various comments, ideas, and point of views.

There are several areas that these comments seem to have in common.

1. One of the biggest areas of common discussion, and which will be the item that will require the most work to get the CMAS system up and running will be the subject of "GEO-CODING".
2. When to re-send and how many times to re-send an alert message.
3. Message formatting, and how many characters in a message.
4. Use of the PBS TV and DEAS system.
5. The Cell Broadcast system.
6. Testing the CMAS
7. How to further proceed on the CMAS time line.

1. Geo-Coding

Contrary to CMSAAC recommendations on item number 17, page 17 of the CMSAAC document, <u>the CMSP Gateway WILL need to make translations</u> from the received "Geo-code" to the proper geographical mapping that is needed by the CMSP switch or terminal. An example would be a Paging CMSP that would need "County" Geo-code translated to channel 3, zone 4 and output to a Paging terminal. If this feature is not incorporated within the CMSP Gateway, then additional computer equipment will need to intercept the alert message and translate this information, causing delays, and possible interruptions to the original alert message.

The CMSAAC has recommended that Geo-coding be defined down to the "County" level. Many Cellular carriers and several Associations supplied comments that the use of geo-

coding should be to even smaller area locations such as the individual cell site locations, especially within urban areas larger than 1 million people.

I believe this is going to be the largest area of discussion and the hardest area to implement in the CMAS system. I implore the industry to not lose sight in these discussions, of the end users who will be impacted by our decisions.   <u>Those whom will be using these devices to protect their life and property.</u>

As it now stands, the use of providing geo-coding below the County level would take large efforts to implement, not only in providing the required software and memory in the CMAS Gateways, but to effectively map these locations within the cell site grids across the entire nation.

The use of Latitude and Longitude coordinates, defining specific locations like circles and polygrams is eventually going to be workable for the CMAS system. But it should not be demanded in early stages of implementation, least it overcomes and bogs down the process of planning, and constructing the system.

Even in the early stages of implementing the CMAS system, if we take the CMSAAC recommendation of using *Counties* as the GEO-CODING baseline, all the Counties within the United States will need to be given an abbreviated geo-code and mapped for each specific carrier's system within the CMAS Gateway software.

There are thousands of Counties within the US and those abbreviated geo-codes will need to fit within a specified amount of characters, so as to not impact the total maximum number of available message characters that can be transmitted.

Remembering again, the End user in this situation, some of the currently available alert devices, and many of which are being designed, have the option for the end user to enter in a "location" parameter to filter the sent alert messages.

Will the End user understand the *County* abbreviations that we as an industry have decided on?   Probably not! Will they have their device's user manual, giving the proper location abbreviations, when they grab their alert unit to evacuate? Also probably not!

What is the easiest way for an End user to define their location???   **ZIP CODE** !
Everyone knows their mailing address, and their zip code. The US Postal service has effectively broken the country up into large regions, then smaller regions, and finally the local postal office locations. The zip code easily defines locations, and is easily understood by the general public. It only uses a total of 5 message characters to geo-code locations across the entire nation (9 characters, if smaller defined areas are needed, as in Zip + 4). <u>It's use as the primary Geo-code should not be overlooked.</u>

Should the end user even be allowed to select locations on their alert device?

Discussion and comments I have heard these last few weeks suggests that the end user should not be allowed to filter alerts by entering locations on their alert devices.

Three examples of which I have heard discussion were,

1. An End user gets an alert in their home area and then evacuates to another area. The device does not get changed to the new location's geo-code, and there is an alert for this new location. The end user would not get this new alert.
2. An alert goes out for a geo-coded location area that the End user is not currently in or their device is not programmed for. The End user then enters the area which the original alert was being broadcast for. They will not get the alert because their device is not programmed for the new location.
3. An End user gets an alert to evacuate to another area. They change their geo-code to this new location. They will then not get any further alerts from their old location regarding additional information or cancellation messages.

If the End user's device was not filtering the geo-code location, and the Carrier was the only one to map the alert transmission to the proper geo-code location. The End user *would* get the alert message in both examples 1 and 2 above. In example 3, the End user still may or may not get the alert message if the carrier is the only one defining geo-code locations. This being dependent on how wide an area, the carrier is defining the geo-code location.

2. Re-sending alert messages

Comments and discussion of whether the CMAS carrier or the Alert Aggregator should be the entity to decide if an alert message should be re-sent, when to re-send it, and exactly how many times it should be re-sent?

1. Liability. The CMAS system is to be a volunteer concept. The Carrier should not be the entity to take on the responsibility to decide, and thus take on the liability for the decision of re-sending an alert message, or how many times to send an alert message until expiration.
2. The Alert Aggregator will be the main entity that is working directly with the Alert Initiator, and they will have access to the sole information that is needed to determine when to re-send the alert and how many times to re-send it.
3. The Alert Aggregator should be the sole decider of whether an alert message is re-sent to a CMAS Carrier for re-transmission as a "duplicate" message, with the same message identifier number, thereby giving no re-alert on the End user's device. Or whether the message needs to be re-sent with a new

Message Identifier number, to make sure a new alert is given by the End user's device. (Example: Tornado spotted)

4. If software programming is installed in the CMAS Gateway unit to automatically control the need for re-sending alert messages, and the number of times to re-send the message, the Government should be the entity that makes that decision and sets those software parameters.

3. Message Parameters

The CMSAAC recommendation is that the alert message be 90 characters in maximum length. This is mainly based on the use of "Cell Broadcast's" maximum character message length. Older (Legacy) Alphanumeric pager units will provide a maximum message length of 120 characters, with newer units having 248 characters. Cellular SMS will handle 160 characters.

Therefore, at least in the beginning, the CMAS system should be based on the 90-character limit, and be expanded from there, dependent on what new technical parameters are capable of being realized. Possibly even rolling over to second messages for increased character limits.

This will mean that the entire alert message will need to be as compact and as precise as possible to get the most relevant amount of information to the End user.

Comments and discussion vary regarding the use of the DATE and TIME entries. The majority of the existing devices that would be used by the industry, at this particular time, already have time stamping available on them for incoming messages. To incorporate the Time and Date on the displayed portion of the End user alert message would be duplication, and a misuse of much needed maximum character message space.

The CMSAAC has recommended that the Message Identifier number be 2 binary octets (4 Hex characters). This will allow a total of 65534 messages (no zero numbered message). Since the CMSAAC estimates that a total of 25,000 alert messages will be generated per year, with a possibility of a high of 12,000 per month. The 4 Hex Message Identifier should be large enough to allow that the same message number will only be sent once each year. Should more alerts be sent than this number each year, the need to use additional message number octets should be incorporated into the message maximum character count. Only actual usage of the CMAS will provide us this information.

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The current CAP and CMAC message elements of "Urgency", "Severity", and "Certainty" are misleading and need to be re-structured, or combined into a better scale of message priority.

The concept of K.I.S.S. (Keep It Simple Stupid) should be used when looking at what actually needs to be sent to the End user.

1. The use of the phrase "in this area" should not be used or displayed. If the Carrier transmits the alert to the End user, then it should be assumed that the End user is already "in this area" due to the Carrier's Geo-code mappings.
2. There should be NO display of alert message "Expiration time". This is a misleading term to the End user. (Does an evacuation expire in one hour?)
3. After seeing comments by other CMSP's, I suggest that there should be NO display of any URL's or telephone numbers to call for additional information included in alert messages. This will only cause additional congestion on the CMSP's network, which will not be welcome at that time. The phrase "Turn on your local Radio or TV station" should be used where it is needed to get additional information to the End user.
4. The phrase "Watch for" needs to be added in the CAP field of "responceType" for use in Amber alerts. None of the other response types fit this type of alert.

An example of what we believe should be a K.I.S.S. End user message format for the transmitted and displayed alert message is as follows:

(Msg Id number – 4 char. - needed for duplicate message detection in alert devices) (cr/lf) (eventCode, translated out to a small phrase – 12 characters) (cr/lf) (responseType, translated out to a small phrase – 12) (cr/lf) (small message – 59 characters)   (Total 90 characters)

1234	5A7F	9876
Tstorm Warn	Amber Alrt	President
Take Shelter	Watch for	Execute
Storm heading to Jackson city local TV	Suspect in green Toyota with	Turn on
area	plates AZ 345	or Radio
for Info		

4. PBS TV stations and the DEAS

There has been some comments and discussion on whether the use of the DEAS (Digital Emergency Alert System) should be used as a feed to the CMSP's and the CMAS gateways. We suggest that it not be used as such. The DEAS should be available for those that want the extra means of getting alerts for their use, but by

mandating that the DEAS or the PBS TV station's to be the feed for the CMAS Gateways would put undo potential for outages on the CMAS.

 In the case of an emergency, it is always easier to provide back up capability to keep a satellite dish, and a small computer (CMAS Gateway unit) up and running, than it would be to keep a 100-kilowatt TV transmitter on the air. There could also be the potential for undue delays in the re-transmission of the Alert Aggregator's message to the PBS TV station, or the DEAS system, and then to the CMAS Gateway. For these reasons alone, we suggest that it not even be considered.

5. Cell Broadcast/SMS Messaging

There have been several entities that have commented regarding the Cell Broadcast system. Some of these comments have stated how they believe that Cell Broadcast will work well, and that the currently used SMS texting will not work as effectively for alerting use.

Several Carriers have commented that they do not believe the Cell Broadcast technology will be functioning and operational for the CMAS, until approximately 2 years from this time.

We suggest that the CMAS timeline *still* continue to go forward, and that existing technology be used as much as possible. As soon as Cell Broadcast becomes available, the Carriers can implement this technology. <u>The CMAS time line should not be altered, to sit and wait, for any specific technology. To do so, would not be in the public's interest.</u>

6. Testing the CMAS

Much discussion and comments were about testing the CMAS and the CMAS Gateways. It is technically possible to test the system down to the end user. With Paging, you would use a "Test" capcode. With Cellular SMS, you would need to setup a "Test" cell phone.   In the case of Cell Broadcast, the Test phone would select a different *Cell Broadcast address* than the normal cell phones were using for alert use. Any alert message that came down from the Alert Aggregator with the "Status" code or "Geo-code" of "Test" in it would automatically be *mapped* to the End user test units. This will allow the complete testing of the system out to an End user device.   None of these will cause alerts to the existing End user alert units on the Carrier's system.

7. How to proceed on the CMAS timeline

It is imperative that we continue to implement the CMAS. Perhaps even speeding up the timeline, to get the system up and running for the public. To listen to some comments that have suggested that the entire process be scrapped.   To start over again, to continue to hold discussions until we come up with the perfect CMAS alerting device and format, are NOT in the Public's interest.

Events like the massive Tornado's in the South-East USA dictate the need for us to continue on implementing, as fast as possible, the CMAS.   The Government could even aggressively cut days off the CMAS timeline, by planning and constructing the CMAS in different technical stages or layers.

The first stage would be to get the CMAS up and running with current "Legacy" consumer devices. These devices will not be the perfect alert devices, but they will get needed alerts out to the majority of the public. Even if it allows us to get the public, in the middle of the night, to wake up and turn on their TV or Radio for further information, the effort will be worth it.

Then, as further enhancements and technical upgrades can be put together, they can be implemented on the system. As new alert devices become available, they can be sold and will take more advantage of the full features of the CMAS.

I believe that the industry could come together on this project and have a system up and running within 6 months from now, if we all put our minds to it.

Hurricane season, will again start in mid May for the gulf coast, Fire season in June for the Southwest.   It is possible, to have the CMAS on-line and working by then, to help save lives!

Respectfully submitted,
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